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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,792	03/16/2001	Nathan G. Clark	990471 U2 USA	9172

7590

05/29/2002

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EXAMINER

NELSON, PETER A

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 05/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. _____

Applicant(s) _____

Examiner _____

Group Art Unit _____

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-37 is/are pending in the application.
- ☐ Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-37 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

Art Unit: 3641

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5, 10-16, 36 and 37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kock et al.

These claims recite a liner for a shaped charge made from the composition of Kock et al. They fail to state any shaping, forming or construction of the liner, with only the composition recited herein. Kock et al teach the use of up to 95% tungsten with a binder metal such as copper. The reference teaches using this as an impact projectile. It meets the structure of the claims, however, for no particular structure is recited. Alternatively, it would be obvious to form the penetrating composite of Kock et al into a shaped charge liner.

4. Claims 4, 7-9, 17-30 and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kock et al in view of Riggs.

Kock et al teach the use of high percentage metal penetrators that can be formed through the use of a binder material addition. Riggs teaches the enhancement of the same idea up to 99% base metal formation through the use of oil and graphite as an aid

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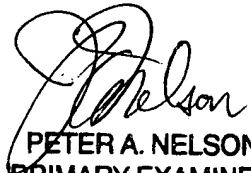
in maintaining structural toughness. It also teaches the formation of said material into a conical liner. It would be obvious to an artisan desiring to achieve a higher percentage of base component (tungsten) in Kock et al to use the lubricating components of Riggs when forming it into liner shape.

5. Claims 6 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kock et al in view of Reese et al.

Kock et al teach the use of a variety of binder metals including some of those from applicants' list. Reese et al teach that in making tungsten composites, it is preferred to use a more malleable metal to aid in liner formation. This includes lead. It would be obvious to one skilled in the art desiring to ensure that the high percentage tungsten composite of Kock et al does not become brittle to employ the lead of Reese et al as the powdered metal binder therein.

Any inquiry concerning this communication should be directed to Peter Nelson at telephone number 703-306-4166.

Nelson/cw
May 21, 2002


PETER A. NELSON
PRIMARY EXAMINER